

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of: Torabi

Application No.: 09/933,582

Examiner: Alicia Baturay

Filed: August 20, 2001

Docket No.: LUTZ 200405

Case Name/No.: Torabi 6

For: VIRTUAL REALITY SYSTEMS AND METHODS

APPELLANT'S REPLY BRIEF UNDER 37 CFR § 41.41

Appeal from Group 2155

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The Office mailed two Examiner's Answers regarding the above-referenced patent application. The first was mailed on January 23, 2008 and the second was mailed on February 21, 2008. This Reply Brief is responsive to the second Examiner's Answer that was mailed on February 21, 2008 regarding the above-referenced patent application and is being filed within two months of the January 23, 2008 mailing of the first Examiner's Answer.

Reply to Section (9) -- Grounds of Rejection -- (of the Examiner's Answer)

It is noted that Section 9 of the Examiner's Answer provides a restatement of the rejections and explanations thereof that were presented in the Final Office Action which was mailed January 4, 2007. These rejections and explanations were addressed in the Applicant's Appeal Brief which was mailed October 3, 2007, in Applicant's Response for (After Final), which was mailed April 3, 2007 and in the Pre-Appeal Brief Request for Review which was mailed June 1, 2007. In this regard, the attention of the Board is directed thereto.

Reply to Section (10) -- Response to Arguments -- (of the Examiner's Answer)

The -- Response to Argument -- Section of the Examiner's Answer asserts that "the Examiner summarizes the various points raised by the Appellant and addresses them individually." However, in so doing, the Examiner's Answer takes an inappropriate omnibus approach taking the arguments of the Appellant out of the context of the individual claim rejections and in so doing overlooks and does not address important aspects of the arguments of the Appellant.

For example, on page 17, section (A) alleges that Appellant argues: "Barnes is

related to a merged packet service and mobile internet protocol (title) and is unrelated to virtual reality systems and methods." The Response to Argument further characterizes this argument as "Appellant's argument that Barnes is nonanalogous art".

However, the Appellant did not argue that Barnes is nonanalogous art. Instead, the Appellant argues that Barnes is unrelated to virtual reality systems and methods and therefore, **Barnes does not disclose or suggest the system elements for which it is relied.**

In this regard, it is noted that the Office Action does not take issue with the assertion that Barnes is unrelated to virtual reality systems. Instead, pages 17 and 18 of the Examiner's Answer argue that Barnes is analogous art.

However, what is at issue is whether or not Barnes teaches a virtual reality environment gateway entity as asserted in the Final Office Action and at the bottom of page 16 of the Examiner's Answer.

What is at issue is whether or not Barnes teaches accessing a remote virtual reality environment subscriber database as asserted in the Final Office Action and in the large paragraph near the top of page 15 of the Examiner's Answer.

What is at issue is whether or not Barnes teaches accessing a remote virtual reality environment subscriber database as is asserted in the Final Office Action and at the bottom of page 13 of the Examiner's Answer.

What is at issue is whether or not Barnes teaches accessing a relatively remote virtual reality environment subscriber database if the entity in communication with the second user is a visited virtual reality core system relative to the second user as is asserted in the Final Office Action and near the top of page 12 of the Examiner's

Answer. In this regard, it is noted that the Examiner does not take issue with the assertion that Barnes is unrelated to virtual reality systems. Accordingly, it is respectfully submitted that the assertions referred to above of the Office Action and the Examiner's Answer represent clear errors. Barnes is unrelated to virtual reality systems and does not disclose or suggest the virtual reality system elements for which it is relied. Contrary to the assertion in the Final Office Action and at the bottom of page 10 of the Examiner's Answer, Barnes does not teach where responsibility for providing connectivity is handed off from a first respective virtual reality environment core system (VCS) to a second virtual reality environment core system (VCS) if the respective ones of the at least one virtual reality environment user equipment moves out of a first geographic region served by the first respective virtual reality environment core system (VCS) into a second geographic region that is served by the second respective virtual reality core system. Contrary to the apparent assertion in the Final Office Action and near the top of page 8 of the Examiner's Answer, Barnes does not disclose accessing a relatively remote virtual reality environment subscriber database (VSD) to retrieve respective subscription information of the virtual reality environment user equipment (VUE) if the entity receiving the request is a visited virtual reality core system (VCS) relative to the VUE. The cited portions of Barnes simply do not support the assertions made in the Office Action and repeated in Section 9 of the Examiner's Answer.

After submitting (erroneously) in the Final Office Action and that the Appellant argued that Barnes is nonanalogous art, Section (A) of the Response to Arguments section goes on to argue that Barnes is analogous art. In so doing, the Examiner's Answer presents new arguments allegedly supported by citations to new portions of the

cited documents without reference or analogies draw to any elements of the pending claims. Additionally, Section (A) comes to conclusions that are no more supported by the cited documents than are the assertions made in the actual rejections.

For example, in Section (A) the Office, for the first time, makes reference to a mobile communications shelter 18 of Filo and asserts that "because Filo discloses the use of a mobile communications shelter connecting to a VCP, it would stand to reason that Filo would be concerned with connecting mobile nodes to an established network." The Office uses this as justification for combining subject matter from Barnes with Filo.

However, at column 6, lines 21-23, Filo explains that "each of the VCP participants 12, 14, 16, and **18** are radio linked to one another as indicated by the communications lightning bolt 20." Accordingly, Filo's communication needs are taken care of, and there is no motivation to combine subject matter from Barnes with Filo.

Additionally, Filo does not indicate that the "mobile communications shelter" is mobile while participating in the VCP. Furthermore, the subject matter from Barnes discusses connecting a single mobile node 12 to a single host 15 (column 1, lines 57-60) or host 105 (Fig. 3) or host 276 (Fig. 4) and does not disclose or suggest a network or network elements for supporting and providing a VCP such as disclosed by Filo.

Section (B) of the -- Response to Argument -- section asserts that Applicant argues that Filo does not disclose or suggest that virtual command post participants are mobile and responds by referring to newly cited element 18 and newly cited element 19 of Fig. 1 and column 6, lines 17-22, in support of the allegation that Filo discloses virtual command post participants are mobile. However, while the mobile communications shelter 18 is depicted on the back of a truck 19, column 6, lines 17-22, do not disclose

or suggest that the truck is moving or mobile during a virtual command post session.

Section (C) of the -- Response to Argument -- section addresses arguments related to Applicant's assertion of impermissible hindsight reasoning. In this regard, the Examiner's Answer repeats the assertion that a motivation for combining Filo and Barnes to seamlessly roam between networks, without addressing Appellant's arguments in this regard (e.g., see Appellant's Appeal Brief, pages 29 and 30).

The Examiner's Answer also makes reference to *KSR International Co. v. Teleflex Inc.* and indicates: "there are other rationales that support the examiner's conclusion that the claimed invention is obvious. For example all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions" (emphasis added).

In this regard, as pointed out in Appellant's Appeal Brief and in the previously filed responses, there are many differences (i.e., changes) between the VCP of Filo and the many elements of the system recited in the claims of the present application to which the Office Action attempts to draw analogies. Accordingly, the cited rationale from *KSR* is not applicable.

Further in this regard, the Office Action indicates that "Filo was used as the primary reference, which is seen as disclosing all of the claimed subject matter except differentiating between local and remote subscription information databases."

It is respectfully submitted that this assertion is not even a fair characterization of the Office Action. While the Office Action stipulates that Filo does not disclose differentiating between local and remote subscription information databases, the Office

Action relies on Barnes for significantly more. For example, see the last paragraph on page 16 of the Examiner's Answer, where it is asserted that Barnes discloses a virtual reality environment gateway entity that is operative to provide boundary entity services that facilitate a communication of messages between a virtual reality environment core entity (VECE) and the at least one additional virtual reality environment core entity. On page 10, the Examiner's Answer alleges that Barnes discloses "where responsibility for providing connectivity is handed off from a first respective VCS to a second respective VCS if the respective ones of the at least one VUE move out of a first geographic region served by the first respective VCS into a second geographic region that is served by the second respective VCS." It is respectfully submitted that column 12, line 55-column 13, line 1, cited by the Office Action (and page 10 of the Examiner's Answer) clearly does not disclose or suggest providing a connectivity handoff between virtual reality environment core systems (VCS) or between virtual reality environment access systems (VAS).

Page 5 of the Examiner's Answer alleges that Barnes discloses a core system being operative to access at least one of the at least one relatively remotely located virtual reality environment subscriber database (VSD) to retrieve respective subscription information of the at least one virtual reality environment user equipment (VUE) if the core system is a visited virtual reality core system relative to the at least one VUE. However, Barnes is unrelated to virtual reality systems and column 12, line 55-column 13, line 1 (cited by the Office Action and page 5 of the Examiner's Answer), makes no such disclosure.

Without making citation to any portion of Barnes, Section (C) goes on to assert

that the local and remote database limitations are covered by Barnes. However, Barnes is unrelated to virtual reality environments and does not disclose or suggest virtual reality environment subscriber databases. In this regard, the Office Action often cites Fig. 4, elements 20 and 286 as well as column 8, line 12, and column 12, line 55-column 13, line 1. However, elements 20 and 286 are and column 8, line 12, addresses home location registers of a mobile IP network (e.g., column 8, line 9). It is respectfully submitted that home location registers are not subscriber databases. Moreover, discussion of a home location register of a mobile IP network does not disclose or suggest a virtual reality environment subscriber database.

Column 12, line 55-column 13, line 1, indicates that:

At step 452, the mobile node 12, which has just roamed to the location D from the location F, sends a mobile IP Registration Request message to the foreign agent 272. Since this is not initial registration, the mobile node 12 indicates to do a binding update request to have packets forwarded appropriately. At step 454, the foreign agent 272 sends a mobile IP Binding Update message to the old GSN/FA 284. A determination must be made as to whether or not the foreign agent 272 can receive the PDP context, as described above. As stated at the beginning, some features of the present disclosure can be used without other features. At step 456, the GSN/FA 284 responds with a mobile IP Binding Acknowledge message and at step 458, begins to forward packets to the foreign agent 272.

It is respectfully submitted that nothing in column 12, line 55-column 13, line 1, of Barnes discloses or suggests local or remote virtual reality environment subscriber databases or any of the other subject matter for which this portion of Barnes is relied.

For any or all of the foregoing reasons, the conclusions drawn at the end of Section (C) of the -- Response to Argument -- section of the Examiner's Answer represent **clear errors**.

Section (D) addresses arguments related to the lack of disclosure of virtual reality

user equipment operative to capture and transmit real world video.

In this regard, the response appears to cite column 3, lines 2-37, of Filo in an effort to support the assertion that Filo teaches virtual reality user equipment operative to "capture." However, far from addressing capturing, the response portion indicates that Filo discusses a computer terminal apparatus for the executive level participant which includes a wearable computer; display means for displaying the virtual work environment and for displaying animated characters or "avatars" representing other immersed users in attendance in the virtual work environment and for displaying functional objects in the virtual work environment.

Instead of asserting that this equipment captures real world video or transmitting real world video, the response goes on to assert that the executive user of Filo is provided with a radio and modem that is linked to the wearable computer and that is effective to transmit updated changes in voice and position data via the network to the personal computers of all the other user in attendance in the virtual environment.

While falling short of asserting that Filo discloses virtual reality user equipment that captures and transmits real world video, the response does make some assertions with regard to video. For example, while citing column 4, lines 6-18 and column 13, lines 44-55, the Office Action makes reference to a virtual video phone which allows for one of the video walls to become a two-way screen to receive live video and audio data streams from the real world. It is unclear what the phrase "two way screen" means. However, it is respectfully submitted that since a screen cannot capture images and since the video walls 106a, 106b, 106c are virtual and do not actually exist, it is unlikely that Filo means to assert that the screens capture video.

Therefore, it is respectfully submitted that the phrase "two way screen" is reference to receiving (1) live and (2) canned video. Furthermore, the cited portion of column 13 clearly indicates that the virtual video phone 130 enables a non-immersed user sitting in front of a video phone to make a live recording of his image and voice and project his recorded video and audio stream onto a selected one of the video walls of simulated command room 102 (see column 5, lines 38-39). The non-immersed user, if provided with a suitable screen display, would also be able to see into and hear audio communications from the simulated command room 102, albeit from a fixed perspective.

Further in this regard, it is noted that included in the cited portion of column 13, at lines 20-25, Filo makes clear that the video walls or screens are intended to display PowerPoint presentations.

Accordingly, it is respectfully submitted that Filo does not disclose or suggest virtual reality user equipment operative to capture and transmit real world video.

Section (E) addresses arguments related to the lack of disclosure in Filo and Barnes of receiving real time virtual reality data at a virtual reality environment episode management entity, wherein the virtual reality data is representative of an actual physical environment. In this regard, it is noted that the response in Section (E) does not identify an element of Filo or Barnes that the Office considers to be a virtual reality environment episode management entity. Furthermore, the response does not identify any disclosure in Filo or Barnes of virtual reality data representative of an actual physical environment being received by such an entity.

In this regard, it is noted that the Office Actions often draw an analogy between

the VCP of Filo and the virtual reality environment episode management entity. However, as noted at the top of page 22 of the Examiner's Answer, "the VCP is a simulation of an actual command post". Accordingly, it is respectfully submitted that the VCP does not receive virtual reality data representative of an actual physical environment. The VCP exists as software and data on a network (column 2, line 49).

The intent of the citations to column 3, lines 60-67 and column 2, lines 45-48 and 55-61, is unclear. The discussion of avatars in the virtual work environment viewing "in progress" work of a staff level user in real time by simply clicking on the displayed functional object representing that particular staff level user does not disclose or suggest receiving real time virtual reality data representative of an actual physical environment. The indication that Filo emulates today's physical command post and that VCP is a simulation of an actual command post does nothing to support the assertion that Filo discloses receiving real time virtual reality data representative of an actual physical environment. The discussion of a commander and his staff being immersed in this environment via virtual reality displays and inputs including microphones, body encoders and pointing devices also does not disclose or suggest or support the assertion that Filo discloses receiving real time virtual reality data representative of an actual physical environment.

Section (F) of the -- Response to Argument -- section addresses assertions that Filo does not disclose or suggest virtual reality environment subscriber databases or relatively local and/or relatively remote subscriber databases. In this regard, at the bottom of page 22, the response asserts that Filo discloses relatively local and/or relatively remote subscriber databases.

However, this appears to be in direct contradiction to the stipulation in the one sentence paragraph on page 16 of the Examiner's Answer that "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added) This appears to be in direct contradiction to the one sentence paragraph near the top of page 15 of the Examiner's Answer that, "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added) This appears to be in direct contradiction to the stipulation in the one sentence paragraph near the bottom of page 13 of the Examiner's Answer that, "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added) This appears to be in direct contradiction to the stipulation at the top of page 12 of the Examiner's Answer that "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added) This appears to be in direct contradiction to the stipulation in the one sentence paragraph toward the bottom of page 10 of the Examiner's Answer that, "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added) This appears to be in direct contradiction to the stipulation at the top of page 8 of the Examiner's Answer that, "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added) Additionally, this appears to be in direct contradiction to the stipulation near the top of page 5 of the Examiner's Answer that "Filo does not teach differentiating between **local** and **remote** subscription information databases." (emphasis added)

In an effort to support the assertion that Filo discloses virtual reality subscriber

databases, the Office Action cites column 10, lines 35-51, which describe a log in procedure. However, discussion of a log in procedure does not disclose or suggest a subscriber database. Furthermore, it is respectfully submitted that the users of the system of Filo are not subscribers. It is respectfully submitted that one of ordinary skill in the art would understand that a subscription is an arrangement for providing, receiving or making use of something of a continuing or periodic nature, and there is no disclosure or suggestion in Filo that the users of Filo make a subscription to use the VCP simulation. Accordingly, Filo does not disclose or suggest a subscriber database.

Returning to the issue of local and remote, even the response, which assumes the VCPs include a subscriber database, suggests that the VCP would have log in credentials for participants that are local to that VCP. However, as used in the present application, a remote subscriber database is one that is remote from the current location of the subscriber and is remotely accessed for information (e.g., see claims 1, 9, 17 and 20).

For any or all of the foregoing reasons, Filo does not disclose or suggest a virtual reality environment subscriber database. Moreover, Filo does not disclose or suggest relatively local and/or relatively remote subscriber databases.

Section (G) of the – Response to Argument – addresses the assertion that Filo does not disclose or suggest a virtual reality core system (VCS) being in wireless communication with the at least one VUE.

In response, without citation to a corresponding element in Filo, the response asserts that Filo discloses a virtual reality core system (VCS) being in wireless communication with at least one VUE. In support of this assertion, the Office Action

makes new citations to elements 18 and 19 of Fig. 1 and column 6, lines 17-22. However, the cited portion of column 6 indicates that each of the VCP participants 12, 14, 16 and 18 are radial linked to one another as indicated by the communications lightning bolt 20. Fig. 1 and the cited portion of column 6 do not disclose or suggest a virtual reality core system being in wireless communication with the at least one VUE. Furthermore, Fig. 1 and the cited portion of column 6 do not disclose or suggest participants in wireless communication with the VCP 10. In this regard, please note the dotted lines between personnel 18 and the virtual command post separate and distinct from the communications lightning bolt 20.

Even if Filo could be construed as disclosing wireless communication between at least one VUE and something else, it is respectfully submitted that the VCP of Filo is not fairly construed to be all of: the virtual reality core system (VCS) virtual reality environment subscriber databases (VSD) both local and remote, the virtual reality environment episode management entity (VEME), the virtual reality environment access system (VAS) both local and remote, the virtual reality environment control entity (VECE), and the virtual reality environment gateway entity recited in the claims of the present application.

Section (I) of the -- Response to Argument -- addresses the assertion that it is unclear which element discussed in the cited portion of Filo the Office Action considers to be analogous to the virtual reality environment access system (VAS) recited in the claims. However, instead of addressing the subject matter recited in the claims, the response portion of Section (I) references paragraphs 28 and 29 in Appellant's specification. It is respectfully submitted that while the claims are read in light of the

specification, details from the specification are not to be read into the claims.

In any event, with regard to Filo, the Office Action cites column 10, lines 35-51, which Section (F) of the – Response to Arguments – asserts discloses a subscriber database. However, as recited, for example, in **claim 20**, a VAS provides wireless connectivity for the VUE if the VUE is located in a respective geographic region served by the VAS, whereby the VAS relays messages between the VUE and the VECE. It is respectfully submitted that, even if column 10, lines 31-51, could be construed as disclosing a subscriber database, they clearly do not disclose or suggest an element that provides wireless connectivity for the VUE if the VUE is located in a respective geographic region served by the VAS.

As recited in **claim 21**, at each respective additional VAS provides wireless connectivity for at least one of the at least one additional VUE if the at least one additional VUE is located in a respective geographic region served by the respective additional VAS, whereby the respective additional VAS relays messages between the at least one additional VUE and a respective one of the at least one additional VECE; and wherein responsibility for providing connectivity is handed off from a first respective additional VAS to a second respective additional VAS if the at least one additional VUE moves out of a first additional geographic region served by the respective first additional VAS and into a second additional geographic region that is served by a second respective VAS.

It is respectfully submitted that even if column 10, lines 35-51, could be construed as disclosing a subscriber database, the cited portion of column 10 clearly does not disclose or suggest a virtual reality environment access system (VAS) handing

off responsibility for providing connectivity to a second VAS. Accordingly, the assertions of Section (I) of the -- Response to Argument -- represent **clear errors**.

Section (J) of the -- Response to Argument -- appears to be an effort to address arguments found on pages 37 and 38 of Appellant's Appeal Brief which point out that rejections related to **claim 9** highlight a significant difference between the system of Filo and Barnes and the systems disclosed and claimed in the present application. Filo does not disclose or suggest determining that virtual reality data is associated with a requested episode (as recited in **claim 9**) because the architecture of the system of Filo is fundamentally different from the system disclosed in the present application and recited, for example, in **claim 9**. For example, the virtual command posts of Filo are not fairly construed as disclosing or suggesting the VEME recited in **claim 9**. The virtual command posts of Filo are only a simulation of command posts. In contrast, the system elements of the present application are directed at supporting a plurality of different and unrestricted virtual reality environments simultaneously. In stark contrast, the virtual command posts of Filo are only associated with a single particular virtual command post episode. Therefore, all the data associated with the VCP of Filo is associated with that VCP episode. Therefore, there is no need in the system of Filo for a VCP to determine if particular virtual reality data is associated with a particular requested virtual reality episode, and Filo (and Barnes) does not disclose or suggest determining at a VRE episode management entity, that the virtual reality data is associated with the requested virtual reality episode as recited in **claim 9**. In response, Section (J) again references column 10, lines 35-51, which describe a log on procedure and which Section (F) asserts discloses a subscriber database. It is respectfully

submitted that the discussion of logging in or signing into a VCP episode does not disclose or suggest a VEME determining whether received data is associated with a requested virtual reality episode.

For at least the foregoing reasons, the assertions of Section (J) of the -- Response to Argument -- of the Examiner's Answer represent clear errors.

Conclusion

In view of the above comments and the comments set forth in Appellant's Brief on Appeal under 37 CFR §41.37, which was filed October 3, 2007, the Appellant respectfully submit that **claims 1-22** are not anticipated and are not obvious in light of the cited references. Accordingly, it is respectfully requested that the Examiner's rejections of **claims 1-22** be reversed.

Respectfully submitted,

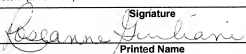


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I certify that Appellants' Reply Brief Under 37 CFR 41.41 is being filed on the date indicated below by electronic transmission with the United States Patent and Trademark Office via the electronic filing system (EFS Web).	
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